



## PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Kunihiko Kodama

Group Art Unit: 1752

Appln. No.: 10/806,451

Examiner: Amanda C. Walke

Filed: March 23, 2004

For: POSITIVE RESIST COMPOSITION AND METHOD OF FORMING RESIST  
PATTERN USING THE SAME

DECLARATION UNDER 37 C.F.R. §1.132

Assistant Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

I, Kunihiko Kodama, do declare and state as follows:

I am a citizen of Japan.

I graduated from Hiroshima University, Faculty of Science, Course in Chemistry (Organic Chemistry) in March of 2004, receiving a Master's Degree.

I have been employed by Fujl Photo Film Co., Ltd., since April of 1994.

From April of 1994 to the present, I have been engaged in research and development concerning resists at the Yoshida-Minami Factory Research Division of the company.

I am the sole inventor of the invention described and claimed in the above-named application, and I am familiar with the subject matter disclosed by the application.

In order to demonstrate the unexpected superiority of the present invention, the following experimentation was conducted.

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## EXPERIMENTATION

### EXAMPLE A

A Solution was prepared in the same manner as in Example 1 in the present specification except that the acid generator is changed to PAG-X (which only has a hydroxyl group as a substituent on one phenyl ring) below. PAG-X was synthesized in the same manner as in Synthesis of Compound I-1 in page 76 of the specification except that 2, 6-xyleneol is changed to phenol.

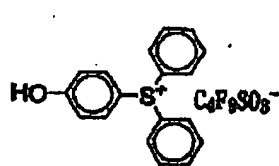
### EXAMPLE B

A Solution was prepared in the same manner as in Example 1 in the present specification except that the acid generator is changed to an acid generator I-10 (which only has a hydroxyl group as a substituent on each of three phenyl rings) below.

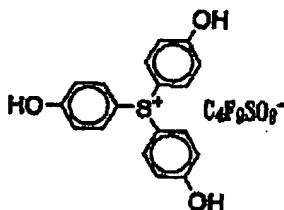
### COMPARATIVE EXAMPLE

Comparative example 1 in the present specification is used (PAG-A is used as an acid generator).

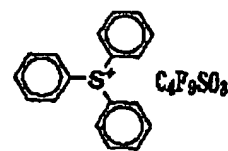
The Resist preparation in page 80 of the specification and the resist evaluation in page 83 and 84 of the specification were applied to EXAMPLES A and B and COMPARATIVE EXAMPLE above. The results obtained are shown in the following Table.



PAG-X



I-10



PAG-A

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	Sensitivity (mJ/cm <sup>2</sup> )	Number of development defects
EXAMPLE A	8	59
EXAMPLE B	9	54
COMPARATIVE EXAMPLE	8	4800

As clearly seen from the comparison of the EXAMPLES A and B and COMPARATIVE EXAMPLE, the development defects were dramatically reduced by using a triphenylsulfonium salt having a hydroxyl group on a phenyl group instead of a triphenylsulfonium salt having no hydroxyl group.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectively submitted,

Date: 08/29/06

Kunihiko Kodama

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